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Date: October 8, 1948

Subject: Meeting October 5 to Review Work of T. D. Design Section on Waste Disposal Problem

Copy # 64

To: Stuart McLain

From: W. R. Gall

Cancelled DOE Date

HW. 65

Before reading this document, sign and date below:

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3. F. L. Culler
4. C. E. Winters
5. J. N. Browder
6. A. E. Unger
7. K. G. Steckdale
8. F. C. McCullough
9. Central File

This document has been approved for release to the public by:

David R Hamann 5/16/95
Technical Information Officer Date
ORNL Site

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To: Stuart Mclain

From: W. R. Gall

Subject: Meeting October 5 to Review Work of Technical Division Design Section on Waste Disposal Problem

Members of the design section working on the waste disposal problem were called together Tuesday, October 5, at 3:30 p.m. to discuss individual assignments and progress to date on those assignments. Those present were: W. R. Gall, F. N. Browder, H. E. Goeller, F. C. McCullough, W. O. Stockdale, and W. E. Unger.

1. It was announced that all information transmitted to the Austin Company must be passed through C. N. Ledgerwood regardless of urgency.

2. Pile Air System: 12 Ducon Cyclone type dust collectors are being ordered at a cost of $17,800. Layout of the foundations, supporting steel and 12" concrete shielding walls should be started as soon as space limitations are clearly defined.

The Engineering Development Section (C. E. Winters) has recommended locating manholes on either side of each air cleaning device with two 3" diameter nozzles for withdrawal and return of sampling air and also two 4" nozzles for other instrument connections. Preferably all connections should be located in a straight run of duct — not in a bend. Present design of the dust system shows one 18" diameter opening at each bend for the purpose of washing out the duct with hoses. There are also some 20" x 48" openings located for access to and removal of butterfly valves. Instrument requirements for measuring air flow, pressure drop, and radioactivity are to be defined by S. O. Hlushan and Wells Stanley. It appears that no provision has yet been made for checking efficiencies of the several air cleaners as recommended by C. E. Winters' group.

A particle count should be made to determine if the requirement of removal of 99.9% of all particles larger than 0.1 micron is met. The Health Physics Division has a "modified cascade impactor" which may be used in conjunction with the Chemistry Division's electron microscope for this purpose. The use of the cascade impactor has been described in articles published in The American Journal of Hygiene and Toxicology.

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3. Liquid Waste: F. N. Browder is making a survey of the liquid waste situation to determine its contribution to the air-borne particle problems and to determine the possibility of reducing volumes of liquid waste and increasing storage capacity for all radioactive non-gaseous waste. To date he has made rough estimates of quantities and activity of waste from 706-A, 706-C, and 706-D. He has a print of a drawing made by the Operating Division showing the Contaminated Chemical Waste System, the Metal Waste System, and part of the Process Waste System from each building in the restricted area to the tank farm, settling basin and creek. This print may be incomplete. He also has an incomplete atlas of X-10 Waste lines furnished by the Plant Engineering Division. These two prints have not yet been checked against each other. The Engineering Division drawings were made from old prints and from field excavations and should be accurate when completed. Browder is preparing block flow sheets based on the information he has gathered.

4. Hood Air: Stockdale, Mister, and Unger are studying the hood and cell air systems both in existing facilities and in the New Research and Isotope areas. Stockdale is getting information from A. F. Rupp regarding air flows in the new radioisotope production area. Unger has finished a flow diagram of air going to the Bldg. 205 stack. He believes that iodine in this air will not be a problem. No report has been found showing iodine in the off-gas. Most of it stays in the dissolver. He is now studying contamination of air from the new research area.

5. 205 Stack Gas: (C. E. Winters' group) Before the Hala run scheduled for October 20, filters will be installed in dissolver off-gas line and the process vent system to block the passage of any dangerously large air-borne particles. Several filter materials will be tried as follows:

1. American Air Filter FG-50 filters
2. C. W. S. #6 paper.
3. K-25 barrier with backing.
4. K-25 barrier backing.

Pilot plant off-gas is not being studied experimentally at present because the situation in 706-D is more critical.

6. Summary of Responsibilities: It is understood that all design data derived from these surveys shall be transmitted to C. N. Ledgerwood for The Austin Company by the Technical Division Design Section.

As near as can be judged by present activities, responsibilities in our Division are as follows:

F. L. Culler: Direct activities of members of the design Section doing survey and design work and define information required.

F. C. McCullough: Collect information and make recommendations on equipment.

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H. E. Goeller:	Preliminary design layouts
C. E. Winters:	Procure samples for analysis, and make flow and pressure measurements in air systems.
W. G. Stockdale: W. E. Unger	Survey air requirements of radioisotope production area and new research area.
F. H. Crowder:	Non-gaseous waste system requirements both existing and proposed areas.
W. K. Mister:	Air requirements in 706-C, 706-D, 706-HB, and Tank Farm.

Original Signed By
W. K. Hall
W. K. Hall

WKH:eg

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